

**REMARKS**

The Office Action mailed on September 16, 2003, has been reviewed and the comments of the Patent and Trademark Office have been considered. Prior to this paper, claims 1-12 were pending in the present application. By this paper, Applicant has added new claims 13-22 and cancelled no claims. Therefore, claims 1-22 are now pending in the present application.

Applicant respectfully submits that the present application is in condition for allowance for the reasons that follow.

**Claim Objections**

In the Office Action, claims 3, 4, 9 and 10 were objected to as being of improper dependent form for failing to further limit the subject matter of a previous claim. As seen above, Applicant has amended these claims to recite that information regarding a plurality of chemical substances is being handled. Applicant requests reconsideration in view of the amendments.

Claim 11 was objected to as containing an informality. Applicant has amended the claim and requests reconsideration in view of the amendment.

**Rejections Under 35 U.S.C. § 102**

Claims 1-2, 5-8, 11 and 12 stand rejected under 35 U.S.C. §102(b) as being anticipated by Patterson (PCT/US97/01491), and presumably, claims 3-4 and 9-10 stand rejected under the same ground. In response, Applicants respectfully submit that the above claims are allowable for the reasons that follow.

Applicant relies on MPEP § 2131, entitled "Anticipation – Application of 35 U.S.C. 102(a), (b), and (e)," which states that a "claim is anticipated only if each and every element

as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” It is respectfully submitted that Patterson does not describe each and every element of independent claims 1 and 7, and thus further does not describe the elements of the claims that depend from claims 1 and 7.

**Independent claims 1 and 7:**

Claims 1 and 7 recite a method for handling “a set of structural data **and functional data**” of chemical substance(s). (Emphasis added.) That is, the data handled according to the methods of the present inventions included both structural data and functional data. Pages 10 to 14 of the specification clearly explain “structural” and “functional” profiles of chemicals. Structural profiles are structural features of synthesis reactants, synthesis reaction products, and synthesis methods. “The method of synthesis or preparation of a chene is desired to be included in structural chenomics data.” (Specification, page 10, lines 23-24). Functional profiles are morphological and biochemical changes such as the death of an organ, of a tissue, and/or of a cell which are brought to the biological system. “Changes resulting from an interaction with the biological system are also included in the functional profile.” (Specification, page 11, lines 18-19.)

The use of both structural and functional data as opposed to the use of only structural data imparts novelty to the present inventions, as the two types of data are not the same. As is noted in the specification, since

both structural and functional data are obtained, an efficient process of drug discovery is made possible. Instead of specifying a single action, one can also place an appropriate query to obtain a list of chenes with desired sets of structural and functional profiles such as flavones with high affinity for IL-6 receptor, low cytotoxicity, an appropriate range of drug-likeness parameter values and certain indication for what drug-metabolizing enzyme system is involved.

(Specification, page 14, lines 5-11.) Thus, handling structural data is distinct from handling functional data, and by handling both, the present invention allows for expedited drug discovery as opposed to simply handling structural data.

In contrast, Patterson only discloses handling structural data. Patterson does not teach a method where functional data is handled. In the Office Action, lines 5 to 8 on page 53 of Patterson are cited as teaching the relation and accommodation of structural *and* functional data. However, this section of Patterson only teaches the handling of structural data of chemicals. It is silent in regard to handling functional data.

True, Patterson does teach the imputation of data relating to chemicals into a database. However, the information inputted into Patterson's database is not the same as that inputted into the databases according to the claims. The teachings of Patterson cited in the Office Action as allegedly teaching the types of data claimed correspond to a part of an explanation in Patterson of "designing a combinatorial library utilizing effective metrics." This explanation relates to design of a *combinatorial screening library* and **does not** provide the necessary teachings to anticipate the claimed methods. The cited passage states that "using the insights gained from the discovery of the validation method of this invention, it is now possible to design general purpose combinatorial screening libraries of optimal diversity." (Patterson, page 53, lines 8-10.) Still further, Patterson teaches that "a starting point for the design of a combinatorial screening library is the choice of synthetic reaction scheme involving the selection of the core molecule and the possible reactants which could be used with any specific chemistry." (Patterson, page 53, lines 2-4.) Patterson only identifies as information to be inputted the chemical structure of all the reactants (and cores, when appropriate) and the synthetic chemistry involved (what products can be built). This is not surprising, as the Patterson appears to specializes in synthesis reactions. Furthermore, the goal in Patterson of inputting the information is to design a combinatorial screening library that has optimal diversity. Thus, the invention of Patterson is limited to combinatorial synthesis. It simply does not teach the imputation of functional data. It cannot anticipate the independent claims.

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The Office Action asserts that Patterson teaches (on page 79) that the related data is analyzed, classified and converted, as claimed. However, Applicant respectfully submits that

as Patterson fails to teach that the data includes functional data, Patterson necessarily fails to teach analyzing, classifying and converting functional data.

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Claims 1 and 7 further contain the recitation that data is “related and accommodated in a database” and “accommodated and cumulatively stored in another data base.” (Emphasis added.) That is, two separate databases are used in the methods of the independent claims. The Office Action does not identify which portions of Patterson teach the use of two databases. The Office Action does point to the first sentence on page 89 of Patterson, which teaches that “a user may select from this database (virtual library).” (Emphasis added.) However, Patterson is referring to the library according to his invention, which is created and used with the same database. Therefore, the independent claims are allowable for yet another reason.

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The Independent claims contain a limitation relating to the users of the claimed methods. That is, each of the claims recite that the entity that is conveniently searching for needed information is the same entity that provided some or all of the structural and functional data of a chemical substance inputted into the database. This recitation is not addressed in the Office Action. Patterson does not teach that the users of Patterson’s library are the same as those that provided the information contained in the library. Thus, yet another limitation of the claims is not found in Patterson.

**Claim 6:**

Claim 6 recites a system containing an information library adapted to enable an entity as claimed who has submitted an original set of data (functional and structural) to search for needed information at a different time. The Office Action cites page 91 of Patterson as disclosing the recitations of claim 6. However, the cited teachings of Patterson fail to teach the enablement of a particular entity to search the library of Patterson. As each and every element of a claim must be “found, either expressly or inherently described, in a single prior

art reference” in order for that reference to anticipate a claim, Patterson cannot anticipate claim 6.<sup>1</sup> Thus, claim 6 is allowable for yet another reason.

### **New Claims**

As seen above, Applicant has added new claims 13-22. Support for the new claims can be found, among other places, in originally filed claims 1-12. These claims are allowable for at least the pertinent reasons detailed above. Allowance of the new claims is also respectfully requested.

### **Conclusion**

Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

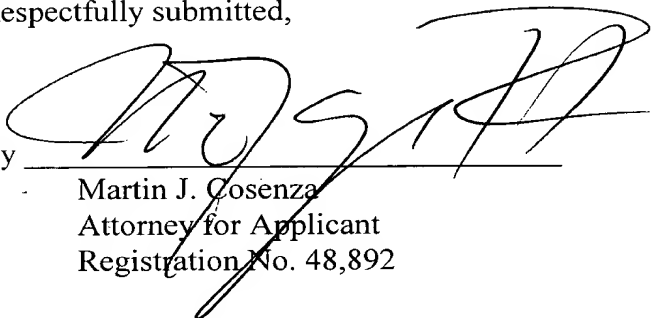
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<sup>1</sup> MPEP § 2131, entitled “Anticipation – Application of 35 U.S.C. 102(a), (b), and (e).”

Examiner Dougherty is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

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